



DF450 plain paper fax machine

User guide

Top view

Automatic sheet feeder. Holds up to 70 A4 sheets of plain paper for copies and incoming faxes.

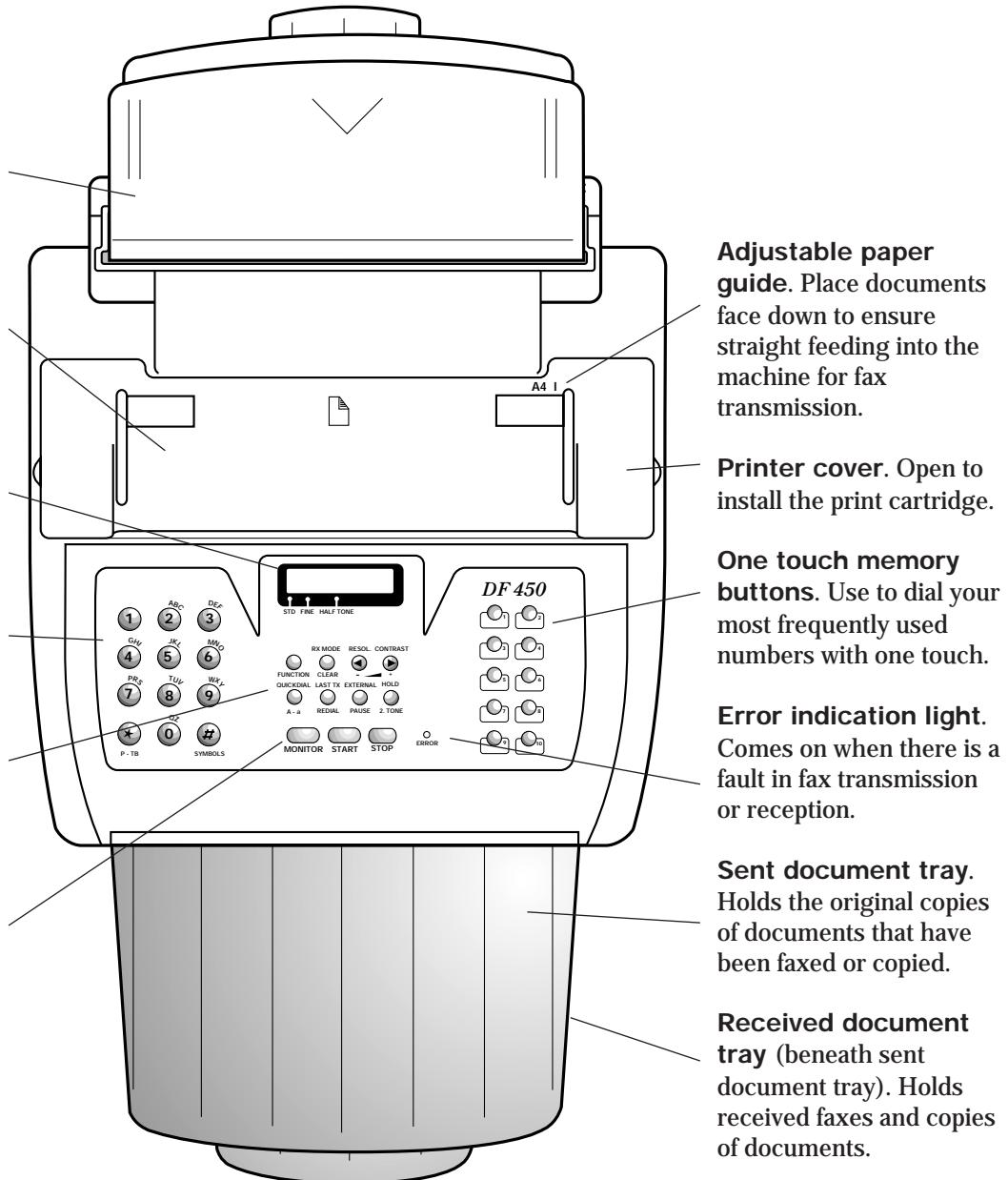
Automatic document feeder. Holds up to 10 sheets to be faxed or copied.

LCD display. Shows dialled numbers, time and date and function information.

Keypad. Press to dial fax or phone numbers and to input names and numbers into the memory.

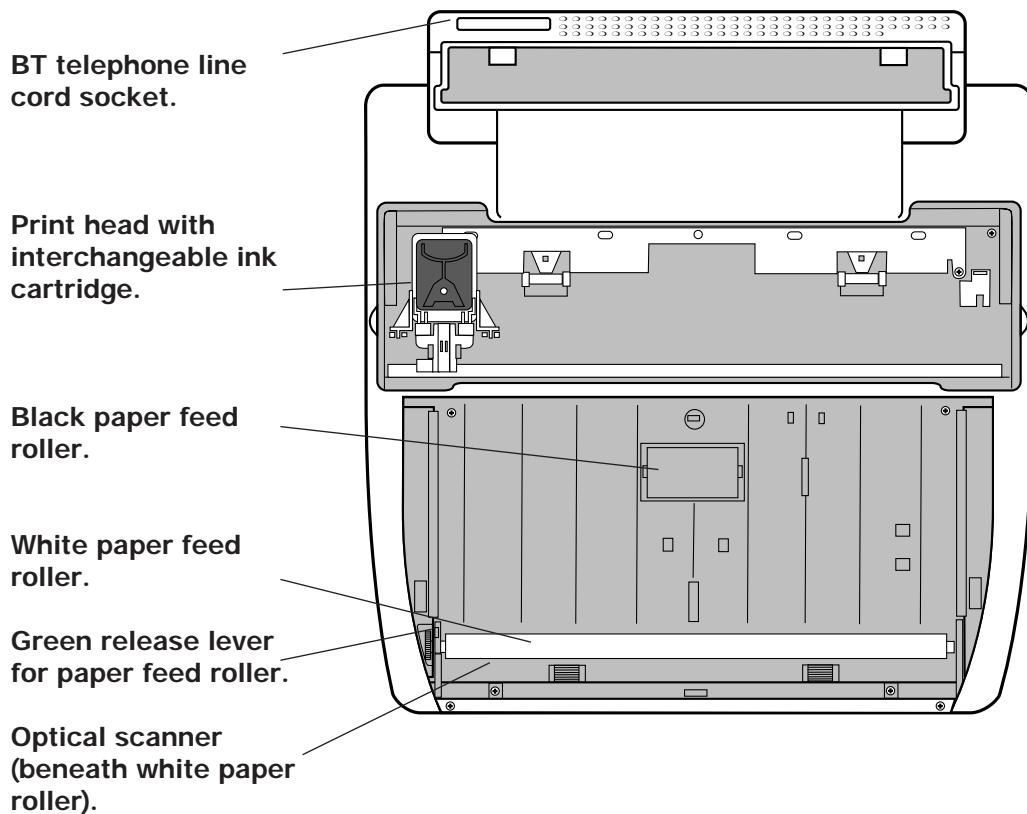
Control panel. Use to access the features of the DF450. Seven buttons have dual functions.

Monitor button. Use for making telephone calls when you have a telephone connected.

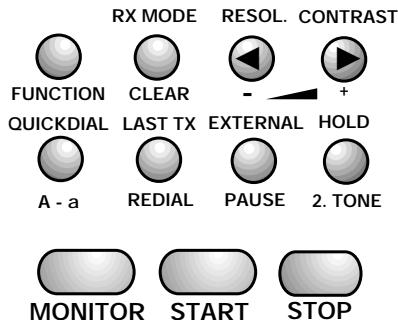


Please open this page for a further 'at a glance' guide to your DF450 plain paper fax machine.

Top view with the printer cover and control panel open.



Control panel



FUNCTION Press to access the various menus.

CLEAR Deletes incorrect entries.

RX MODE Changes document reception settings.

◀ Scrolls through settings available under the function button.

RESOL Selects the resolution for scanning documents to be sent or copied.

- Decreases the speaker volume (after pressing the **MONITOR** button)

▶ Scrolls through settings available under the function button.

CONTRAST Selects the contrast for scanning documents to be sent or copied.

+ Increases the speaker volume (after pressing the **MONITOR** button)

QUICKDIAL Sets the machine for you to dial out numbers stored under the Quickdial function.

A-a Selects capital or lower case letters when storing names in the memory.

LAST TX Prints a status report on last fax sent.

REDIAL Redials the last number.

EXTERNAL (If connected to a switchboard): can be programmed to give you an outside line, ready to dial.

PAUSE Inserts a pause in a number.

HOLD Puts a telephone call on hold.

2. TONE Use this key to detect secondary dial tone on certain PBXs. When this function is activated, a colon will appear in the display.

MONITOR Allows you to dial a telephone number without lifting the handset. You can hear the line tone and dialling tone through the internal loudspeaker. A telephone will need to be connected for you to be able to hold a conversation.

START Use to send or copy a document. Confirms the choices and selections you make on the **FUNCTION** button.

STOP Stops any current operation; resets the machine if there is an operating error.

In this guide

<i>At a glance</i>	1
<i>Introduction to your DF450</i>	3
<i>Setting up</i>	4
<i>Using your DF450</i>	14
<i>Additional features</i>	25
<i>Maintenance</i>	34
<i>Help</i>	36
<i>Technical specifications</i>	46
<i>Technical information</i>	47
<i>Index</i>	49

Hints and tips boxes

In this user guide, we've included helpful tips and useful notes. They are shown in a grey box.

Introduction

Your DF450 fax machine is designed for ease of use and made to the high standards set by BT.

We thank you for making the right choice and expect that the machine will give you many years of quality service.

Please read the instructions carefully before use, and retain this User Guide for future reference.

Customer Helpline

If you have problems with your machine, call the DF450 Helpline Service, Freefone 0800 215 200.

For your records

Date of purchase:

Place of purchase:

Serial number (on base of facsimile):

Purchase price:

(For warranty purposes, proof of purchase is required, so please keep your receipt. See also page 38.)

Setting up

Follow these steps to get your DF450 ready.

Electrical storm warning

Note 1.

Please note that during periods of electrical storm, you should disconnect your DF450 because damage may occur.

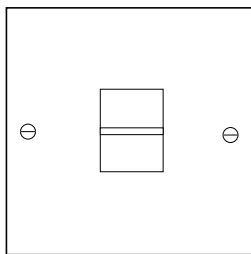
Note 2.

If a fault occurs during the 12-month warranty period and it is due to accidental or wilful damage (including lightning and electrical damage), BT will not replace or repair the equipment free of charge. Should any damage of this nature occur, you are advised to claim against your home contents insurance.

Check that your DF450 is complete. When you unpack you must have:

- DF450 plain paper fax with attached mains lead.
- Automatic sheet feeder cassette.
- Sent document tray.
- Received document tray.
- Telephone line cord.
- Print cartridge (print head with ink cartridge attached).

1 Check your telephone wall socket

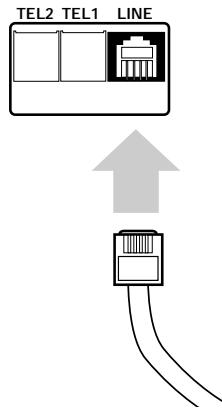


If you do not have a BT socket, call BT* and ask for a BT engineer to come and fit the right socket. This is a chargeable service.

**Call 150 if you are a residential customer or 152 if you are a business customer.*

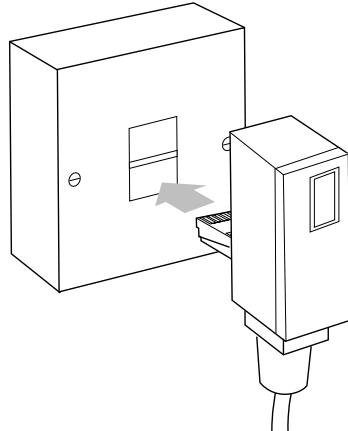
2 Plug the telephone line cord into the socket on back of the machine

When fitted correctly, the line cord should click into place.



3 Plug into the BT socket

Plug the telephone line cord into your socket

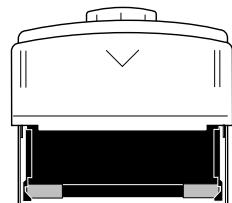


4 Plug the mains lead into a convenient socket

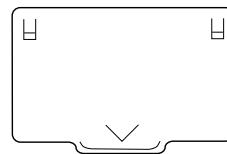
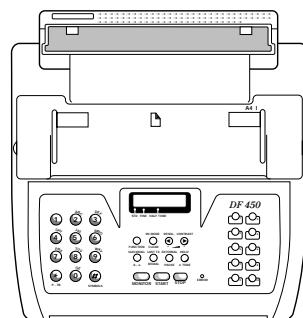
Your DF450 automatically performs a quick self test. The Liquid Crystal Display shows AUTOMATIC RX and ADD PAPER.

The DF450 is designed to be permanently connected, ready to receive and send faxes 24 hours a day. If you need to turn the machine off, switch off at the mains power plug. The machine does not have an on/off switch.

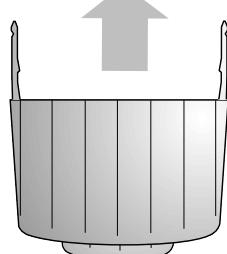
5 Fit your DF450 attachments to the main unit



Automatic sheet
feeder cassette

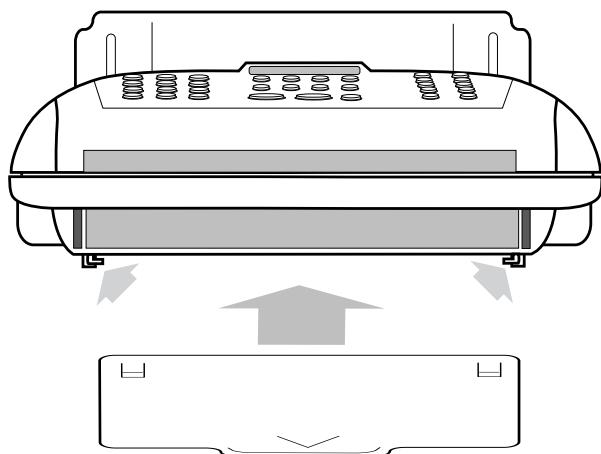


Received document
tray



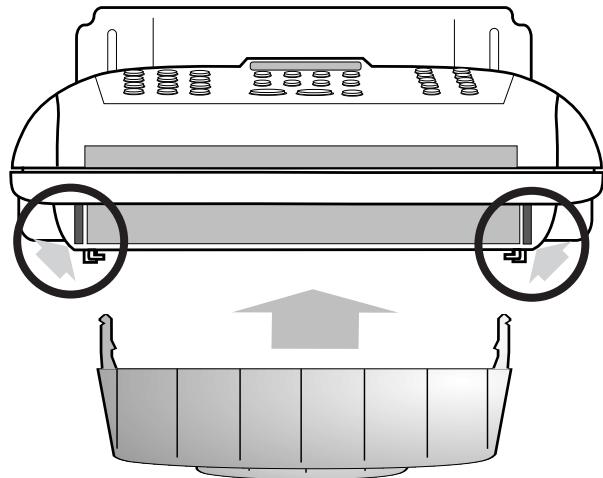
Sent document tray

To fit the received document tray



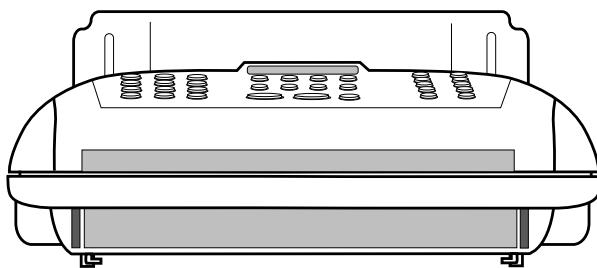
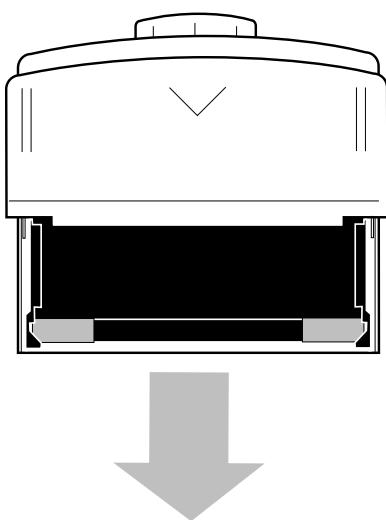
- Slide the received document tray into the slots on the base of the main unit.

To fit the sent document tray



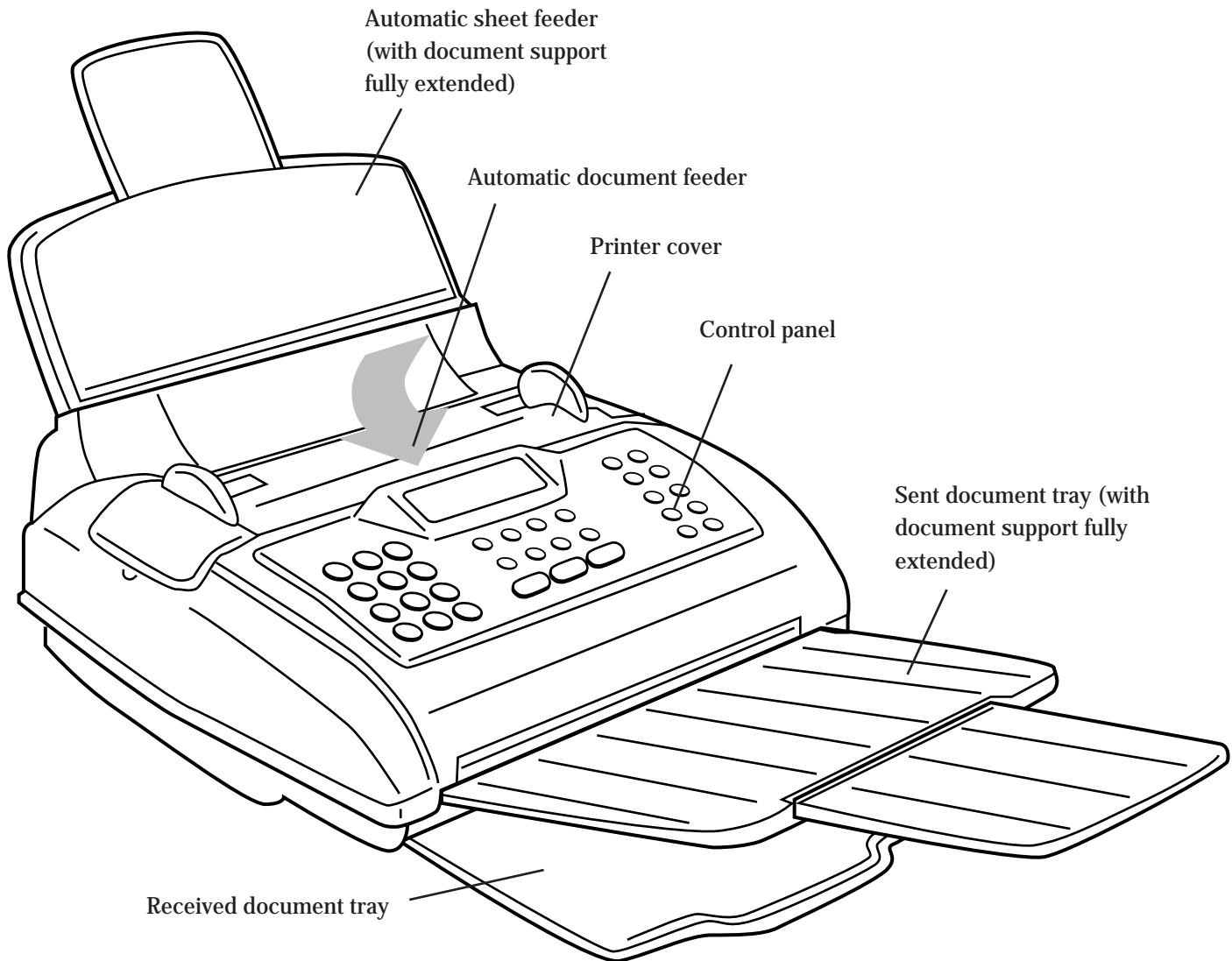
- Slot the sent document tray into the front of the main unit. It will click into place.

To fit the automatic sheet feeder



- Slot the automatic sheet feeder cassette into the main unit. Make sure it is fully inserted.

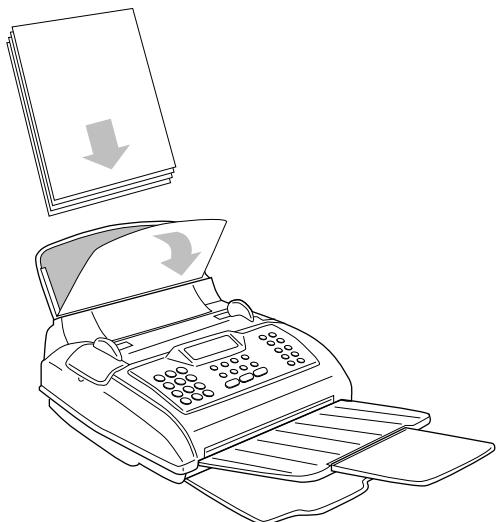
Fully assembled DF450 with attachments fitted



6 Place paper in the automatic sheet feeder

The DF450 can hold up to 70 sheets of plain paper for incoming faxes and copying. Paper sizes can range from A4 (210 x 297mm) to US Legal (216 x 349mm).

- Open the front cover of the sheet feeder by pulling it forward.
- Making sure the cover is fully open, slide the paper into the feeder, then close the cover.

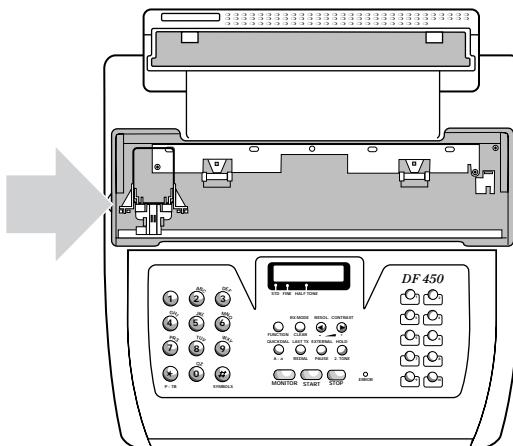


When adding more paper before the feeder is empty, load the new paper behind the existing pages in the cassette.

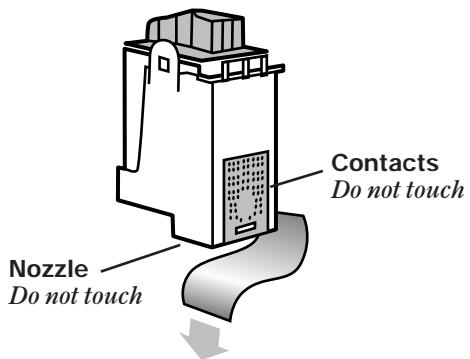
Once paper is inserted in the automatic sheet feeder, the display will show check the print head. If the print head has been installed the display will show the date and time.

7 Install the print cartridge

- Open the printer cover on the top of the main unit to reveal the print cartridge housing.

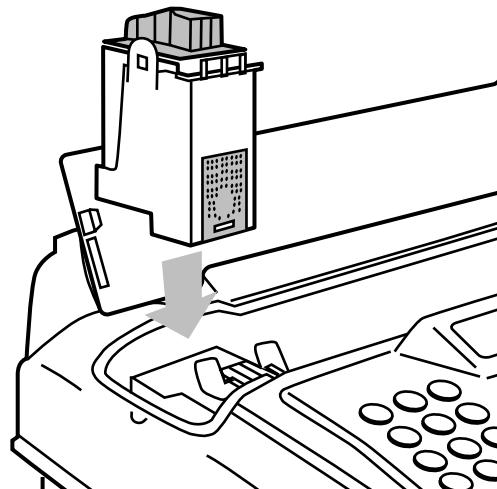


- Remove the print cartridge from its box and remove the protective film from the nozzle.

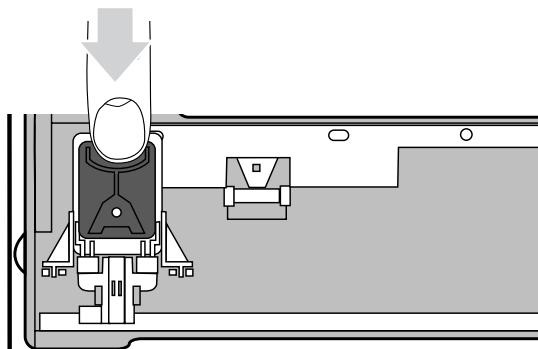


Avoid touching the print nozzle or the electrical contacts, as this may damage the print cartridge.

- Slot the cartridge into the housing, with the electrical contacts facing the front of your DF450.

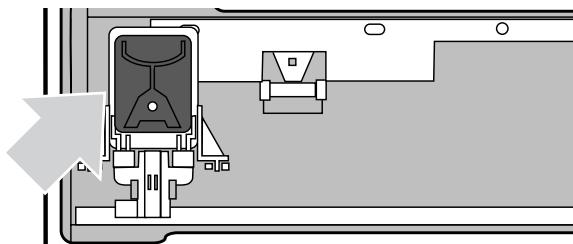


- Push the cartridge towards the front of the machine until it clicks into place.



- Close cover.
- Your DF450 will automatically run a print test. Display shows: CHECK PRINT OUT.
- Press 1 to return to standby mode or press 0 to repeat the print test.

If the display shows CHECK PRINT HEAD, remove and re-install the print cartridge, making sure that the protective film is removed from the nozzle. If you keep getting the same message, call the BT DF450 Helpline service, Freefone 0800 215 200.



- To remove the print head , pull back the two green tabs to release the catch and lift the cartridge out.

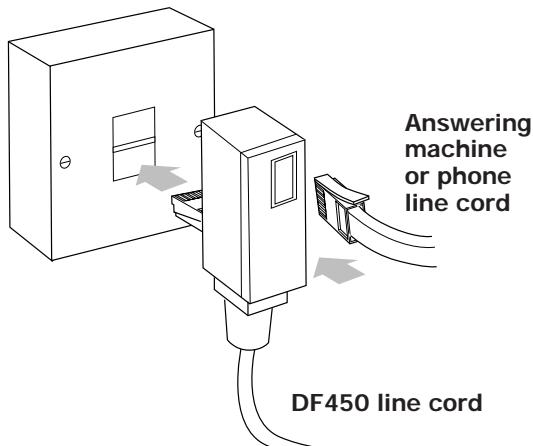
Replacement ink cartridges.

You can buy replacement ink cartridges separately, saving the cost of a complete print cartridge.

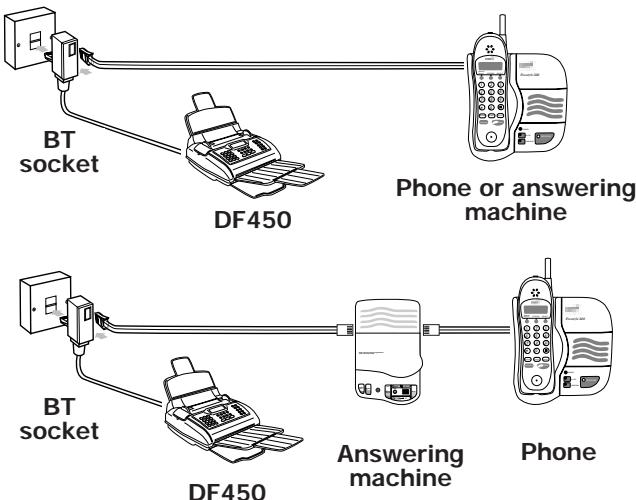
A new print head is recommended after every eight ink cartridges. The Maintenance section in this guide covers print cartridge maintenance and replacement. To order print cartridges Freefone 0800 590009.

8 Connecting a phone or an answering machine to your DF450

Connect a phone or an answering machine to your DF450 by plugging it into the socket on your DF450's line cord.



- Connect a telephone or answering machine as shown below.



9 Setting the time and date

If your DF450 does not show the correct date and time when you switch it on, you can change the setting.



- Press the **FUNCTION** button; display shows the FAX SET UP menu.
- Press the **START** button; display shows VARIOUS SETTINGS FUNC/START/STOP.
- Press the **FUNCTION** button until display shows DATE AND TIME.
- Press the **START** button; display shows the format for the day, month and year, ie, DD/MM/YY.
- Press the **START** button again; display shows the 24-hour format, ie, 24H.

To switch the clock between the 12-hour and 24-hour setting, press the **◀▶** buttons.

- Press the **START** button; display shows the date and time, eg: DD/MM/YY HH/MM
01 - 01 - 96 09.22
- Cursor flashes on the first digit of the date.

*If you are using the 12-hour clock, ensure the correct morning or afternoon time is shown by pressing **FUNCTION** to display either P for pm or A for am.*

- Press the correct **NUMBER** button to enter the day you want. The cursor automatically moves onto the next number selection.
- If you make a mistake, use the **◀▶** buttons to scroll back and forth along the line to change any number.
- Press the **START** button to confirm the setting. The date and time will be updated automatically.
- Press the **STOP** button to finish or cancel the setting and return to the original operating mode. Or, if you wait, your DF450 will automatically return to standby.

The date and time will be printed at the top of every fax page you send.

When adjusting the settings, if you do not touch any buttons for over a minute, the DF450 will automatically reset itself to standby mode.

10 Setting your name and fax number

Your name and fax number can be printed at the top of every fax page you send.



- Press the **FUNCTION** button until the display shows **INSTALLATION**. (If you make a mistake, press the **STOP** button to reset.)
- Press the **START** button; the display shows **TEL. LINE SET-UP**.
- Press the **FUNCTION** button until the display shows **STATION NAME**.
- Press the **START** button; the display shows **TYPE YOUR NAME**.

Use the keypad to type in the letters you want. Do this by pressing the number button which shows the letter you want. Pressing the button changes the letter you require. For example, if you want to store the name JOHN:



- Press **5** on the keypad until **J** appears in the display.
- Press the **►** button to advance the cursor.
- Press **6** on the keypad until the display shows **O**.
- Press the **►** button to advance the cursor.
- Enter the letter **H** by pressing **4** on the keypad until **H** appears on the display.
- Press the **►** button to advance the cursor.

- Press **6** on the keypad until N appears on the display. The whole name is now entered.
- To enter a space, press the ► button.

When entering a name, you can insert various symbols, such as &, using the ★ and # buttons to scroll through the options.

You can move back and forth to the letters you want by pressing the ◀▶ buttons. Delete the whole name by pressing the CLEAR button. Press the A - a button to change between CAPITAL LETTERS and small letters.

- Press the **START** button to confirm your selection; the display shows PHONE NUMBER.
- Press the **START** button again; the display shows TYPE YOUR NUMBER. Dial in your number.
- To enter a space, press the ► button.

You can scroll back and forth to change any digits using the ◀▶ buttons.

- Press the **START** button to confirm your number. Display shows DIAGNOSTICS. To return to the DF450's standby mode, press the **STOP** button. Or if you wait, the DF450 will automatically return to standby.

Your DF450 has back-up batteries fitted. In case of a power cut or disconnection from the mains, it will remember the date and time as well as any numbers and names stored in the memory.

International codes

You can display your number as an international number. Press the ★ button. This is printed on your header as a +.

For example, +44 171 123 1234.

11 Name and fax number position

Your name and fax number can be printed inside or outside the image area of a sent document. Your DF450 is pre-set to print this information inside.

To change header position



- Press the **FUNCTION** button until the display shows FAX SET-UP.
- Press the **START** button until the display shows HEADER INSIDE.
- Press the ► button; the display shows HEADER OUTSIDE.
- Press the **START** button to confirm setting.
- Press the **STOP** button to return to standby.

Using your DF450

Your DF450 fax lets you set the functions to suit the way you work. The most commonly preferred settings are pre-selected as standard. You can alter or choose new settings as desired.

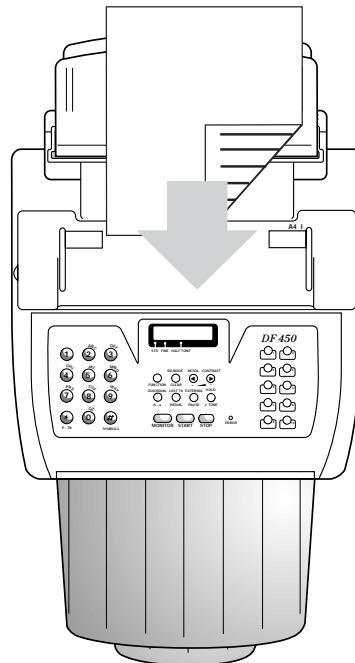
Warning - do not try to send or copy documents which are:

- still wet with ink or correcting fluid
- very thick or very thin (paper should be between 70-90 gsm for best results)
- stapled or clipped together
- torn, folded, crumpled or with punched holes
- on carbon paper or glossy paper

When adjusting the settings, if you do not touch any buttons for over a minute, the DF450 will automatically reset itself to standby mode.

To load documents for faxing

- Feed up to 10 pages at a time, face down, into the automatic document feeder.
- The first page is automatically drawn a little way into the feeder.
- Display shows: DOCUMENT READY



If you make a mistake, press the STOP button to cancel the operation and return to standby mode.

To send a fax

You have a choice of ways to dial a fax number:

Normal dialling

- Load document
- Dial the number you want. (Press the **◀▶** buttons to move the cursor to change any number you press by mistake.)
- Press the **START** button.
- After the last page has been sent, the display shows TX COMPLETED and you hear a beep.

One-touch dialling

- Load document
- Press the **one-touch** button you want (1-10), display shows the name and number stored.
- Your fax is sent automatically.
- After the last page has been sent, the display shows TX COMPLETED and you hear a beep.

Quick dialling

- Load document
- Press the **QUICKDIAL** button.
- Using the keypad, dial the two digit short code (01 - 32) you want; the display shows the name and number you have stored in the memory.
- Your fax is sent automatically.
- After the last page has been sent, display shows TX COMPLETED for a few seconds.

*To see the numbers and names stored in the Quickdial memory, press the **QUICKDIAL** button then the **◀▶** buttons to scroll backward and forward through the list.*

If the number you are calling is engaged or the connection is not made, your DF450 will automatically redial the number every two minutes up to three times.

If your fax stops for any reason, you will hear a three-second beep and the **ERROR** light comes on. Press the **STOP** button remove any remaining paper and begin the process again. If pre-selected, an error report will be automatically printed (see page 26).

To redial the last number

Your DF450 will redial a fax number for you.

- Press the **REDIAL** button; the display shows last number dialled.
- Press the **REDIAL** button again; number is dialled.

To stop a fax you are sending

If you choose, you can stop a fax during transmission.

- Press the **STOP** button once to halt the transmission and once again to eject a page currently being scanned.
- Press the **STOP** button again to return the machine to standby.

Sending small text or pages with pictures.

*If you are sending small print, illustrations or photographs, you can alter the **RESOLUTION** and **CONTRAST** settings to ensure the clearest possible transmission. See Additional Features, page 25.*

Delaying a fax

This allows you to transmit a fax automatically at a pre-set time. This can be useful if you want to send a fax abroad or at a time when call charges are lower.

- Insert the document to be faxed in the Automatic Document Feeder.
- If necessary, adjust contrast and resolution (see Additional Features, page 25)
- Press the **FUNCTION** button until the display shows **DELAYED TX**.

*If a delayed sending has already been set, you can cancel the number by press the **CLEAR** button.*

- Press the **START** button and enter the fax number.
- Press the **START** button, display shows **TYPE TIME**.
- Set the time you want the document to be sent, using the keypad.

*If using the 12-hour clock, press the **FUNCTION** button to switch between am and pm.*

- Press the **START** button to confirm the setting.
- Your DF450 will print a report confirming the details. Do not remove the document.
- Your fax will be sent at the time you have specified.

*If the document is removed before sending, the **DELAYED TX** setting is cancelled.*

To receive a fax

Your DF450 is pre-set to AUTOMATIC RX which means it is ready to receive faxes automatically. Remember to make sure there is plenty of paper in the automatic sheet feeder.

- When a call is received, your DF450 display shows CONNECTING.
The fax is received and printed.
- After the last sheet is printed, display reverts to AUTOMATIC RX.

See *Setting the answer mode* on page 17 for details of reception modes and operation with a phone or answering machine

During reception, if the paper or ink runs out, a paper jam occurs or the printer cover is opened, then printing will be interrupted, reception will continue and your DF450 will store the incoming fax in its memory. When the problem has been rectified, your DF450 will print out the documents stored in the memory.*

**See page 38 for document memory capacity.*

To copy documents

Your DF450 can be used to copy a document.

- Place document face down in the document feeder and press the **START** button.
- If you need more than one copy of a document, simply repeat the process.
- Press the **STOP** button to halt copying.
- Press the **STOP** button again to eject page.

Setting the answer mode

Your DF450 will operate in one of four modes: MANUAL RX, PHONE/FAX RX, TAD/FAX RX or AUTOMATIC RX.

To change the answer mode:

- Press the **RX MODE** button until display shows the required mode.

Which mode is correct for you?

MANUAL RX

A telephone should be connected to your DF450 when using this mode.

Incoming calls will ring the attached phone.

If a call is not answered after 7 rings, your DF450 will automatically switch to fax reception and answer the incoming call.

When the phone rings

- Pick up the handset. If you hear fax tones, press the **START** button on your DF450 and replace the handset. The fax will be received.

PHONE FAX RX

A telephone should be connected to your DF450 when using this mode.

Incoming calls will ring the attached phone.

When a call is received, the phone will ring twice and, if the handset is not picked up, your DF450 will take the call and check for fax tones.

- If your DF450 hears fax tones, it will receive the fax normally.
- If it does not hear fax tones, your DF450 will beep to indicate an incoming phone call, the display will show **LIFT HANDSET**.
- Lift the handset in order to speak.
- Your DF450 will beep for up to 20 seconds. (to adjust the time see Additional Features, page 25). If the handset is not lifted after this time, your DF450 will assume it is a fax. It will stay in fax reception mode for about 30 seconds or, if it is a fax call, until the fax has been received.
- If you pick up the phone within the first two rings and you hear fax tones, press the **START** button, replace the handset and your DF450 will receive the fax.

TAD FAX RX (telephone answering device)

This allows your DF450 and a connected answering machine to take phone and fax calls.

When a phone call is received, the answering machine will take it and the display will show OFF HOOK.

If the call is a fax, your DF450 will override the answering machine and automatically receive the fax - normally after the outgoing message has been played.

AUTOMATIC RX

This mode is for use when you are using your DF450 as a fax machine only. Faxes are received and printed automatically.

There is no audible indication of an incoming call in this mode.

Using a phone or answering machine with your DF450

To make a call from an attached phone

You can make a phone call in a number of ways

either

- By using the phone as normal.
or
- Press the MONITOR button on the DF450 and dial the number, pick up the handset and wait for the number to answer.
or
- You can use the telephone numbers stored in your DF450's memories. To dial a phone number, make sure the Automatic Document Feeder is empty. Select the One Touch buttons or Quickdial codes. Press the START button, pick up the handset to speak.

Using the HOLD button

When using a telephone with the DF450, you may not want your caller to hear your conversation with someone else in the room. Press the HOLD button and you can talk without your caller hearing. Your caller will only hear a regular tone to show that the line is open. Press the HOLD button again to return to your caller.

To send a fax using the phone to dial

You can dial a fax number using the phone connected to your DF450.

- Insert the document to be faxed in the Automatic Document Feeder.
- Dial the number you want on the phone.
- Press the **START** button on your DF450. (To cancel at any time, press the **STOP** button.)
- Replace the handset.

To use with an answer machine

With your DF450 set to TAD/FAX mode, your connected answer machine will take all calls as normal. Your DF450 will respond after the outgoing message if it hears fax tones and will override the answer machine to automatically receive the incoming fax.

To enable the reception of faxes from a fax machine which does not send fax tones, your DF450 is pre-set to switch to fax reception if, when it is called, it detects up to 6 seconds of silence. You may need to adjust this time to suit your answering machine. Shorten the time if your DF450 fails to cut in, or lengthen it if it cuts in while a caller is leaving a message (see Additional Features, page 25).

Remote control from an extension

If your DF450 is connected to a telephone network which has other telephone extensions, it is possible to take the call on an extension and, if it is a fax call, transfer the call to your DF450.

To transfer a fax call from a telephone extension

- Press the **★** button on your telephone twice and replace the handset. Your DF450 will automatically take the call.

If the **★★** command conflicts with other equipment or services connected to the line, you can alter the second digit of the remote start command as follows:

- Press the **FUNCTION** button until the display shows INSTALLATION.
- Press the **START** button until the display shows REMOTE START:ON. (If the display shows REMOTE START:OFF, press the **<>** buttons to select ON.)
- Press the **START** button display shows TYPE CODE.
CODE (0/9, **★**)

The **★** will flash; you can now replace it with another character (0 and 9) using the keypad.

- Enter the new digit then press the **START** button to confirm your choice.
- Press the **STOP** button to return to standby.

*As a precaution, to prevent your DF450 cutting in during a voice call, press the **★** and **#** buttons before starting a conversation. This will immobilise your DF450 during the call and may be necessary as there are rare occasions where certain voice tones or pitches can be mistaken for fax tones, which would set off a fax response.*

Polling

This allows another fax machine to retrieve a document from your DF450 or for your DF450 to retrieve a document from another fax machine at a time that's convenient to them.

To set up a fax document to be polled by another machine

Polling calls are charged to the machine which retrieves the document.



- Insert the document.
- Press the **FUNCTION** button until the display shows POLLING TX.
- Press the **START** button until the display shows POLLING TX SET.

Your fax will then be sent when another fax machine calls your DF450.

- To cancel the POLLING settings press the **STOP** button.

To poll a document from another fax machine

You can retrieve a document from another fax machine. The other fax machine must be set, ready for polling.



- Press the **FUNCTION** button until POLLING RX is displayed.
- Press the **START** button; the display shows TYPE FAX NUMBER.
- Enter the fax number you wish to poll.
- Press the **START** button; the display shows TYPE TIME.
- Press the **START** button to poll immediately or use the keypad to set the time when you want your DF450 to begin polling.

Your DF450 is now set to poll at the time you have specified.

Storing one-touch and Quickdial numbers and names

To store one-touch numbers and names

You can store a fax number, phone number *and* a name under each of the 10 One-Touch buttons. Each number can be up to 38 digits long and each name up to 16 characters long.

To enter a fax number



- Press the **FUNCTION** button, display shows FAX SET-UP.
- Press the **START** button.
- Press the **FUNCTION** button until the display shows ONE TOUCH DIAL.
- Press the **START** button and then the (1-10) button under which you want to store the number/name; the display shows FAX NO: START/STOP/< >.
- Press the **START** button.
- Dial the fax number you want.
- Press the **START** button to confirm the setting.

If you make a mistake when keying in a number, you can delete it by pressing the CLEAR button.

If you are connected to a switchboard, you may also need to store a pause or PBX access code using the EXTERNAL/PAUSE button, see page 31, Connecting to a switchboard.

After confirming the number, the display shows SPEED. This is already set to the fastest possible transmission speed and you will not normally need to adjust it. Press the **START** button, display shows OVERSEAS.

If you have entered an overseas number, press the **<>** buttons to select ON from the display as this ensures clearer transmission.

- Press the **START** button to confirm setting; the display shows: NAME

You can now key in the name of the person or company whose number you have just entered.

To enter a name

Use the keypad to enter the name. To do this, press the number button which shows the letter you want. By pressing the button you can change the letter. For example, if you want to store the name JOHN:



- Press **5** on the keypad, until display shows J.
- Press the ► button to advance the cursor.
- Press **6** on the keypad until the display shows O.
- Press the ► button to advance the cursor.
- Press **4** on the keypad until H appears on the display.
- Press the ► button to advance the cursor.
- Press **6** on the keypad until N appears on the display. The whole name is now entered.
- To enter a space, press the ► button.

*If you want to change your entry, you can move back and forth to the letters you want by pressing the ◀▶ buttons. Delete the whole name by pressing the **CLEAR** button. Press the **A - a** button to change between capital letters and small letters.*

*When entering a name you can insert various symbols, such as &, using the * and # buttons to scroll through the options.*

- Press the **START** button to confirm your selection. The display asks if you want to enter another one-touch number.
- To enter another number/name, press the **START** button again followed by the one-touch button you want and repeat the previous sequence.
- Press the **STOP** button to return the DF450 to standby mode.

To enter a phone number

- Press the **FUNCTION** button; the display shows FAX SET-UP.
- Press the **START** button.
- Press the **FUNCTION** button until the display shows ONE TOUCH DIAL.
- Press the **START** button and then the (1-10) button under which you want to store the number/name; the display shows FAX NO: START/STOP/< >.
- Press ► to change the display to TEL NO: START/STOP/< >.
- Press the **START** button.
- Dial the phone number you want.
- Press the **START** button to confirm.
- Display shows: NAME.

If a name has already been entered, press the **START** button to continue or the **STOP** button to return to standby. To enter or edit a name see *To enter a name*.

To store Quickdial numbers and names

Your DF450 can store up to 32 names and numbers which can be accessed by the Quickdial facility. Names can be up to 16 letters long and numbers up to 38 digits long.

To enter a fax number

- Press the **FUNCTION** button; the display shows FAX SET-UP.
- Press the **START** button.
- Press the **FUNCTION** button until the display shows CODED SPEED DIAL.
- Press the **START** button; the display shows TYPE SPEED NO.(01-32)
- Using the keypad, type in the two-digit code you want.
- Press the **START** button.
- Dial in the fax number you want.
- Press the **START** button to confirm.

*If you make a mistake when keying in a number, you can delete it by pressing the **CLEAR** button.*

To change transmission speed

After confirming a fax number, the display shows SPEED. This is already set to the fastest possible transmission speed and you will not normally need to adjust it. To change it for an overseas transmission, press the **START** button; the display shows OVERSEAS. Press the **<>** buttons to select ON from the display. This ensures clearer transmission.

- Press the **START** button to confirm setting, display shows: NAME

You can now key in the name of the person or company whose number you have just entered.

To enter a name

Use the keypad to enter the name. To do this, press the number button which shows the letter you want. By pressing the button, you can change the letter. For example, if you want to store the name JOHN:



- Press 5 on the keypad, until display shows J.
- Press the **►** button to advance the cursor.
- Press 6 on the keypad until the display shows O.
- Press the **►** button to advance the cursor.
- Press 4 on the keypad until H appears on the display.
- Press the **►** button to advance the cursor.
- Press 6 on the keypad until N appears on the display. The whole name is now entered.
- To enter a space, press the **►** button.
- Press the **START** button to confirm your selection. The display asks if you want to enter another one-touch number.
- To enter another number/name, press the **START** button again followed by the two-digit code you want and repeat the previous sequence.
- Press the **STOP** button to return the DF450 to standby mode.

*If you want to change your entry, you can move back and forth to the letters you want by pressing the **<>** buttons. Delete the whole name by pressing the **CLEAR** button. Press the **A - a** button to change between capital letters and small letters.*

*When entering a name you can insert various symbols, such as &, using the ***** and **#** buttons to scroll through the options.*

To enter a phone number

- Press the **FUNCTION** button, display shows FAX SET-UP.
- Press the **START** button.
- Press the **FUNCTION** button until the display shows CODED SPEED DIAL.
- Press the **START** button and the display shows TYPE SPEED (01-32).
- Using the keypad, type in the two-digit code you want; the display shows FAX NO: START/STOP/< >.
- Press **►** to change the display to TEL NO: START/STOP/< >.
- Using the keypad, type in the two-digit code you want.
- Press the **START** button.
- Dial the phone number you want.
- Press the **START** button to confirm.
- Display shows: NAME.

If a name has already been entered, press the **START** button to continue or the **STOP** button to return to standby. To enter or edit a name see "To enter a name".

- Press the **START** button to confirm your selection. The display asks if you want to enter another Quickdial number.
- To enter another number/name, press the **START** button again followed by the two-digit code you want and repeat the previous sequence.
- Press the **STOP** button to return the DF450 to standby mode.

Keep a list handy of all the numbers and names you have stored on the memory. Your DF450 can print out a list of all the names and numbers you have stored. See 'Print outs' on page 26.

Additional features

Your DF450 has a range of extra features which you can set to suit the way you work

Adjusting the resolution and contrast

You can choose different settings to ensure improved quality when sending or copying a document.

RESOL. CONTRAST



- Insert the document to be faxed or copied
- Press the **CONTR** button three times to view the options. You can choose LIGHT, NORMAL or DARK. For light documents in pencil or thin print quality, select the DARK setting. For documents with a dark background, select the LIGHT setting.
- Press the **RESOL** button and the display will move the arrow between the settings STD, FINE and HALF TONES.
For small or hard-to-read text, select the FINE setting.



For pages containing pictures, photographs or drawings, select HALF TONES.



Fax monitor

Your DF450 is pre-set to allow you to hear the signals exchanged during a fax call in the initial connection phase via its in-built speaker.

To switch off the fax monitor



- Press the **FUNCTION** button until the display shows INSTALLATION.
- Press the **START** button.
- Press the **FUNCTION** button until the display shows DIAGNOSTICS.
- Press the **START** button until the display shows LINE MONITOR: ON.
- Press the **►** buttons to switch the display to LINE MONITOR: OFF.
- Press the **START** button to confirm setting.
- Press the **STOP** button to return to standby.

To change the speaker volume

You can change the volume of your DF450's in-built speaker.

- Press the **MONITOR** button.
- Press the **◀▶** buttons to adjust the volume.

Print-outs

Automatic print-outs

Your DF450 will automatically print an activity report after every 32 transactions. It can also be programmed to print individual reports after every successful or failed transmission.

To automatically print individual reports



- Press the **FUNCTION** button until the display shows FAX SET UP.
- Press the **START** button until the display shows one of the three options available: FAILED TX REPORT, TX REPORT:OFF, or TX REPORT:ALWAYS.
- Pressing the **<>** buttons will display each of the three options.
- Press the **START** button to select your option.

TX REPORT:ALWAYS - Your DF450 will automatically print an individual activity report after every transmission.

FAILED TX REPORT - an individual activity report is automatically printed after every failed transmission.

TX REPORT:OFF - no individual reports will be automatically printed.

Power failure report

Your DF450 will print a status report automatically when power is restored after a power failure during transmission or reception. The report includes the number of pages which were sent or received before the failure occurred.

To print manual reports



- Press the **FUNCTION** button until the display shows PRINT OUT REPORT.
- Press the **START** button, display shows: PRINT:TX REPORT.
- Pressing the **<>** buttons will display the other options: PRINT:JOURNAL and PRINT OUT:EXIT.
- Press the **START** button to select your option.

PRINT:TX REPORT will give an activity report for the last fax sent.

PRINT:JOURNAL will give an activity report for the last 32 transactions.

PRINT OUT:EXIT returns your DF450 to standby mode without printing.

To print a list of stored names, numbers and settings



- Press the **FUNCTION** button until the display shows FAX SET UP.
- Press the **START** button.
- Press the **FUNCTION** button until the display shows PRINT OUT SET-UP.
- Press the **START** button; the display shows PRINT SETTINGS.
- Pressing the **<>** buttons will display the other options: PRINT: ONE TOUCH, PRINT: SPEED DIAL, PRINT OUT: EXIT
- Press the **START** button to select your option.

PRINT SETTINGS will print out a list of the option settings you have selected on your DF450.

PRINT: ONE TOUCH will print out a list of names and numbers stored under the one-touch buttons.

PRINT: SPEED DIAL will print out a list of names and numbers stored in the Quickdial memory.

PRINT OUT: EXIT returns you to standby mode without printing.

If no one-touch or Quickdial codes have been programmed, display shows EMPTY DIRECTORY and the print-out will have the symbol “-”.

To print a list of installation parameters
You can print out a list of your DF450's current settings (answer mode, header position etc.)



- Press the **FUNCTION** button until the display shows INSTALLATION.
- Press the **START** button; the display shows TEL. LINE SET UP.
- Press the **FUNCTION** button until the display shows PRINT INSTALL.
- Press the **START** button; the display shows PRINT OUT: START.
- Pressing the **<>** buttons will display the other option: PRINT OUT: EXIT.
- Press the **START** button to select your option.

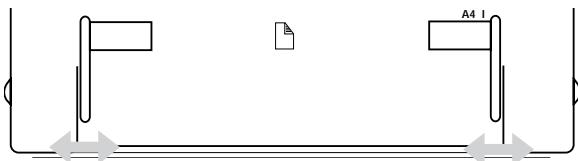
START will print a list of your DF450's installation parameters.

EXIT returns you to standby mode without printing.

Adjusting for different-size paper

To send a different-size document

Your DF450 can send documents from 148 x 148mm up to 216 x 600mm in size. Adjust the document feeder (if necessary) by moving the side supports.



To receive a different-size document

The automatic sheet feeder is pre-set to take A4 (210mm wide) paper, but can be adjusted to take paper 216mm wide also.



- Press the **FUNCTION** button.
- Press the **START** button until the display reads **SIZE:**
- Press the **<>** buttons to select between **SIZE:A4**, **SIZE: LETTER** and **SIZE: LEGAL**.

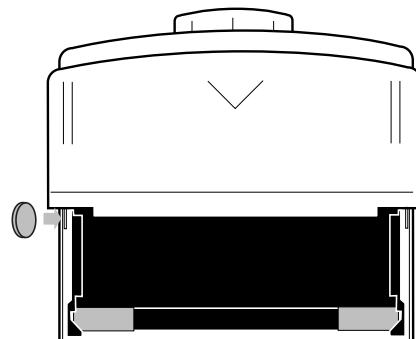
A4 - 210mm wide, Legal and letter - 216mm wide.

- Press the **START** button to confirm your selection.
- Press the **STOP** button to return the DF450 to standby.

To change the automatic sheet feeder cassette to take different-size paper

Your DF450 automatic sheet feeder can hold A4 (210mm wide) or Legal (216mm wide) paper. Adjust the automatic sheet feeder (if necessary) by moving the side supports.

- First remove the paper cover from the front of the automatic sheet feeder.
- Insert a small coin into the small groove just in front of the hinge, this will release the hinge to allow you to pull out the cover.

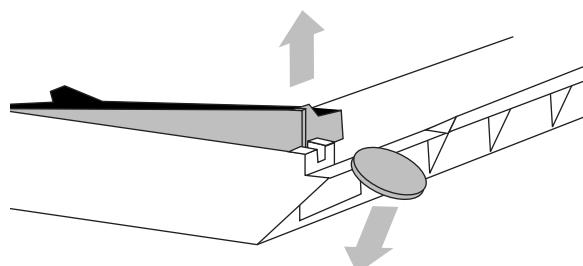
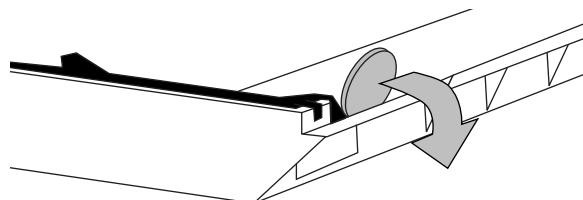


- Insert a small coin in the groove at the bottom of the automatic sheet feeder to release the black side supports.



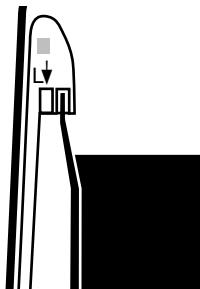
Repeat this action for both sides of the automatic sheet feeder.

- Gently pull back the coin to lift out the side supports.



- Remove the black side supports and put them in the correct slot:
L = Legal (216mm wide)
A4 = 210mm wide

Repeat this action for both sides of the automatic sheet feeder.



- Replace the paper cover on the front of the automatic sheet feeder.

Changing the size of incoming faxes

Your DF450 can reduce incoming faxes onto a smaller page area.

The standard setting is 94% reduction which allows you to print a document and the fax header onto an A4 sheet.

To change the standard 94% setting:



- Press the **FUNCTION** button.
- Press the **START** button until the display shows REDUCTION: 94%.
- Press the **◀▶** buttons to display the reduction options: 80%, 76%, 70% and OFF.
- Press the **START** button to select your chosen option.

The DF450 display now shows **SURPLUS**. This enables you to receive faxes of a longer page length than the paper you are printing on.

- Press the **◀▶** buttons to view the available settings: SURPLUS: ON, SURPLUS: OFF or SURPLUS: AUTO

SURPLUS: ON means any overlapping text will be printed onto a separate page.

SURPLUS: OFF means any overlapping text will not be printed.

SURPLUS: AUTO is similar to **SURPLUS: ON** but means that your DF450 will not print an additional sheet if the received page is only slightly longer than A4 (297mm). This prevents the printing of unwanted pages and is your DF450's default setting.

- Press the **START** button to confirm your selection.
- Press the **STOP** button to return your DF450 to standby.

Adjusting the beep in phone/fax mode

You can adjust the volume and the length of time the DF450 will beep before reverting to answering the call.

To change the beep length



- Press the **FUNCTION** button until the display shows INSTALLATION.
- Press the **START** button until the display shows TEL LINE SET-UP.
- Press the **START** button; the display shows FAX/TEL TIMER: 20.
- Press the **◀▶** buttons to display the beep options: 15, 20, 30 or 40 seconds.
- Press the **START** button to confirm your selection.
- Press the **STOP** button to return to standby.

To change the beep volume

- Press the **FUNCTION** button until the display shows: FAX SET-UP.
- Press the **START** button until the display shows: BUZZER VOL.: LOW.
- Press the **◀▶** buttons to select between LOW and HI.
- Press the **START** button to confirm the setting.
- Press the **STOP** button to return to standby.

Adjusting the silence lapse time

This is the silent period which your DF450 will interpret as an indication to switch to fax reception mode.

To set the silence lapse time



- Press the **FUNCTION** button until the display shows: INSTALLATION.
- Press the **START** button until the display shows: SILENCE LAPSE. Pressing the **◀▶** buttons displays the available options.
- Press the **START** button to confirm your selection.
- Press the **STOP** button to return to standby.

Connecting your DF450 to a direct exchange line

Your DF450 is pre-set to TONE dial for connection to direct exchange lines. In the unlikely event that you need to change this setting to PULSE dialling:



- Press the **FUNCTION** button until the display shows INSTALLATION.
- Press the **START** button until the display shows PSTN DIAL: TONE.
- Press the ► button to select PULSE.
- Press the **START** button to confirm the setting.
- Press the **STOP** button to return to standby.

Connecting your DF450 to a private switchboard

For the DF450 to use the functions of a switchboard, you may need to change the TONE/PULSE setting and the PUBL. LINE to the PRIV. LINE setting. If in doubt, ask your communications manager or switchboard supplier.



- Press the **FUNCTION** button until the display shows INSTALLATION.
- Press the **START** button until the display shows TEL LINE SET-UP.
- Press the **START** button. Display shows PUBL. LINE (PSTN).
- Press the ► button to select PRIV.LINE (PBX)
- Press the **START** button to confirm the setting; the display shows PBX DIAL:TONE. To select PBX DIAL: PULSE, press the ► button.
- Press the **START** button to confirm the setting.
- Press the **STOP** button to return to standby.

Inserting a pause

Some switchboards require a delay between dialling the access code and the fax/phone number. You can press the PAUSE button to insert this delay before dialling the number.

Setting the external button

Your switchboard may require an access code in order to give you an outside line. This external line command can be stored under the **EXTERNAL** button.



- Press the **FUNCTION** button until the display shows INSTALLATION.
- Press the **START** button until the display shows PRIV.LINE:(PSTN).
- Press the **<>** buttons until the display shows PRIV.LINE:(PBX).
- Press the **START** button, display shows PBX DIAL:TONE.
- Press the **START** button, display shows EXT LINE PREFIX.
- Press the **<>** buttons to display the external line options PREFIX, EARTH or FLASH.

EARTH = Earth recall **FLASH** = Time break recall

- Press the **START** button to confirm the setting.
- If you chose PREFIX, the display shows: TYPE PREFIX (0-9).
- Enter your access code (up to three digits).
- Press the **START** button to confirm the setting.
- Press the **STOP** button to return to standby. Your access code is now programmed and can be dialled by pressing the **EXTERNAL** button before dialling a number.

The EXTERNAL feature can also be stored as part of a one-touch or Quickdial entry.

Error correction mode (ECM)

Error correction mode ensures that fax transmissions are of the best possible standard when sending or receiving from another machine with a similar feature. When it is selected and in use, an E is shown in the display at the end of the called number. It is recommended that this facility is left on.

To switch off error correction mode



- Press the **FUNCTION** button until the display shows FAX SET UP.
- Press the **START** button, display shows VARIOUS SETTINGS.
- Press the **START** button until display shows ECM: ON.
- Press the **>** button to change display to ECM: OFF.
- Press the **START** button to confirm setting.
- Press the **STOP** button to return to standby.

Speed

This feature controls the fax transmission speed at the start of a transmission. It is pre-set to 9600 for optimum performance, but it can sometimes help with overseas calls to change the speed to 4800.

To change the speed



- Press the **FUNCTION** button until the display shows FAX SET UP.
- Press the **START** button until the display shows VARIOUS SETTINGS.
- Press the **START** button, display shows TX SPEED: 9600.
- Press the **►** button to change display to TX SPEED: 4800.
- Press the **START** button to confirm setting.
- Press the **STOP** button to return to standby.

Diagnostics

This feature allows an engineer to remotely test your machine in the event of a problem. Your DF450 is pre-set to Diagnostics: On.

To switch off diagnostics



- Press the **FUNCTION** button until the display shows INSTALLATION.
- Press the **START** button until the display shows DIAGNOSTICS.
- Press the **START** button; the display shows REMOTE DIAG: ON.
- Press the **►** button to change display to REMOTE DIAG: OFF.
- Press the **START** button to confirm setting.
- Press the **STOP** button to return to standby.

Maintenance

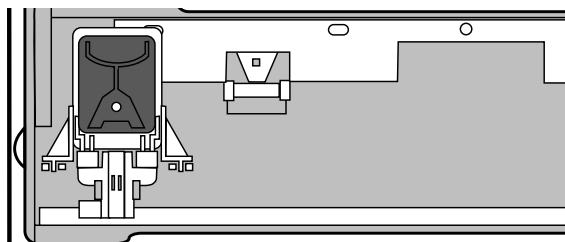
To fit a new print head

You can buy a ready assembled ink cartridge and print head and install it as shown in the Setting Up section.

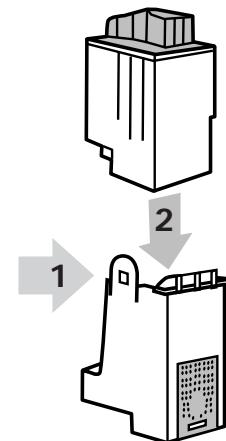
To fit a new ink cartridge

It is less expensive to simply replace the ink cartridge. One print head should last for eight ink cartridges.

- Open the printer cover.



The ink cartridge is located inside the print head. The print head does not need to be removed while changing the ink cartridge.



1 Pull back the clip on the side of the print head to release the ink cartridge and remove it from the print head.

2 Remove the protective film from the nozzle of the new ink cartridge and push it into the print head until it clicks into place.

Close the printer cover.

The DF450 will automatically test and clean the print nozzles, and then generate a test print-out containing a graduated scale, graphic images and text. Following the print-out, the display will show CHECK PRINT OUT.

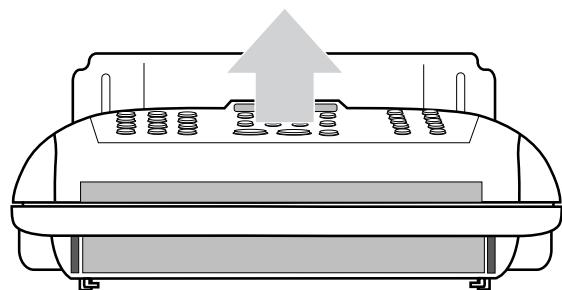
If the graduated scale is uninterrupted and the dark areas do not contain white lines, the print quality is to be considered satisfactory. If not, repeat the procedure.

- Press **1** if the test print is acceptable.
- Press **0** to repeat the test.

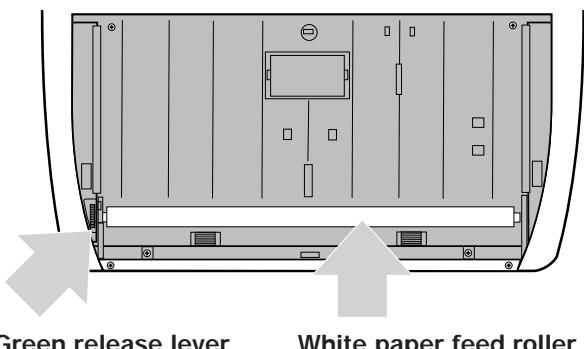
If the print head is still unsatisfactory after a number of tests, replace the printhead.

Cleaning the optical scanner

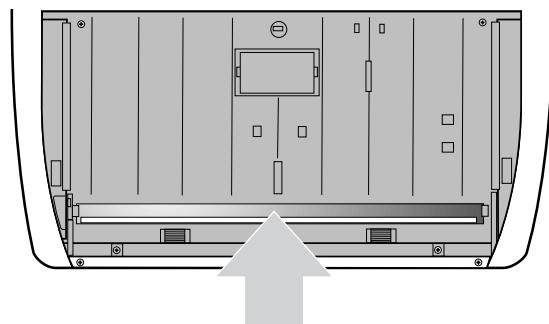
- Raise the operator console.



- Release the green lever on the left-hand side of the white roller. Lift out the white roller. Clean the white roller with a lint-free cloth to remove any dirt.



- Clean the glass of the optical scanner with cloth such as a VDU Screen Wipe or cloth dampened with a specific glass-cleaning product. Dry the glass carefully. Do not pour or spray cleaning product onto the glass.



- Put the roller back and close the console.
- Test that the scanner is clean by copying a blank sheet of paper. If the copy is not clear, check the glass again. If copies are still not clear, call the DF450 Helpline Service on **Freefone 0800 215 200**.

Help

If you have any problems using your DF450, this section will give you the most common solutions.

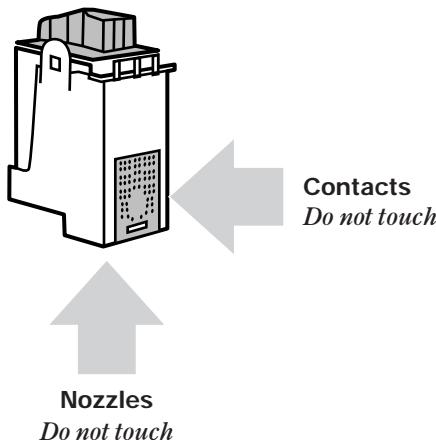
DF450 doesn't print properly

Have you removed the protective film from the ink cartridge or print head or both?

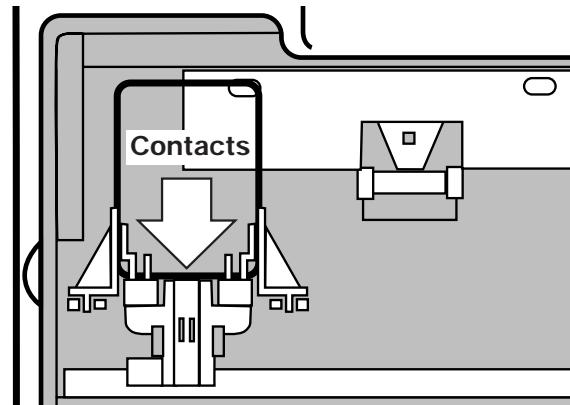
The print head nozzle may need cleaning.
Lifting the print cover and closing it again makes the DF450 perform an automatic test procedure, which cleans the nozzle

The electrical contacts for the ink cartridge may need cleaning.

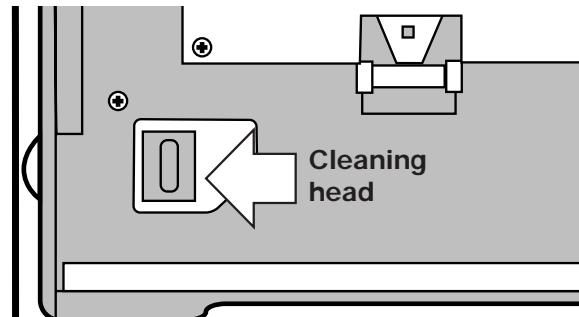
- Open the printer cover.
 - Remove the print cartridge.
 - Clean the electrical contacts on the ink cartridge with a dry cotton wool bud.
- Caution: Do not touch the nozzles or contacts.



- Clean the electrical contacts on the print cartridge in the same way.



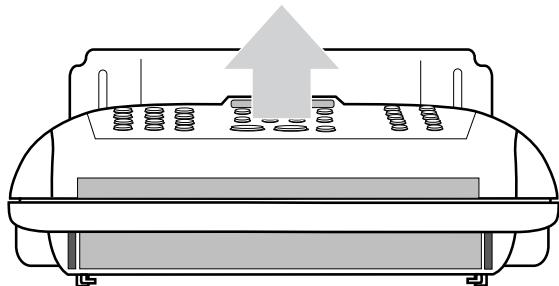
- The print cartridge cleaning head may need wiping.
- Wipe the head with a dry cotton wool bud



When the printer cover is opened, the ink cartridge automatically moves to the centre of the machine. However, if your DF450 is not connected to the mains, you can move the printer head by gently pushing it along its runner to reveal the print cartridge cleaning head.

Document jam

- If a document you are sending gets jammed, the display shows REMOVE DOCUMENT.
- Press the **STOP** button; this may clear the problem. If not, remove any paper still in the document tray, raise the operator console (the section with the keypad and function buttons) and remove any documents.
- Raise the operator console.



- Remove the jammed paper. If necessary, release the white roller (see: "Cleaning the optical scanner", page 35).
- Refit the white roller (if necessary), then lower the console, replace the document and try again.

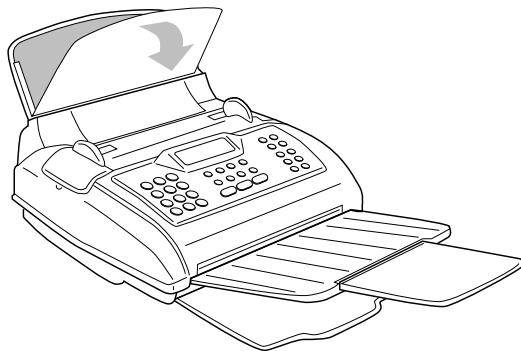
Printing paper jam

If printing paper is jammed:

- Display shows: PAPER ERROR. PRESS STOP.
- Pressing the **STOP** button may clear the jam.
- If the jam is not cleared, remove the automatic sheet feeder cassette, and ensure paper is inserted correctly. Pull out any paper jammed in the cassette housing or received document tray.

If the paper is jammed in the automatic sheet feeder

- Open the tray cover



- Remove the jammed sheet and close the cover. You may need to remove the whole paper tray.

Error light

If the ERROR light on the console lights up:



- The called party is disconnected or has not responded *or*
- The called fax machine is incompatible with your DF450 *or*
- Errors have been detected during transmission/reception.

To switch off the ERROR light, press the **STOP** button.

To reset your DF450

If you encounter a problem and your DF450 will not respond to any button presses, turn the power switch off for ten seconds. Turning the power back on will reset your DF450 to standby mode. Your personalised settings and memorised numbers will be maintained.

Document memory

If your DF450 runs out of ink or paper while receiving a fax, the document will continue to be received and stored in your DF450's memory, to be printed out when ink/paper is replenished. No further documents can be received until the ink/paper is replenished and the documents stored in the memory have been printed. The maximum storage capacity is about ten pages of the industry standard test sheet (shown on page 39).

The capacity may be less depending on the document content.

In the event of power failure, the data retained in the document memory will be maintained for several hours.

Print cartridge life

The replacement ink cartridge contains sufficient ink to produce 500 copies of the industry standard test sheet (shown on page 39, which has about 6% black on white coverage of an A4 sheet).

If your average black on white coverage exceeds this standard then, the number of printed sheets will be reduced.

To order fax consumables:

Freephone 0800 590009

Warranty

For details of the Terms and Conditions of your warranty, please refer to the documentation supplied by your retailer.

No dialling tone when using monitor button

Is your DF450 line cord plugged into the phone socket? Ensure that the speaker volume is not set to the minimum (see page 25).

Poor print quality

If there is a problem with the quality of a fax you have sent, or a document you have copied, the optical scanner may need cleaning (see "Cleaning the optical scanner", page 35).

THE SLEREXE COMPANY LIMITED

SAPERS LANE · BOOLE · DORSET · BH 25 8ER
TELEPHONE BOOLE (946112) 51617 · TELEX 123456

Our Ref. 380/P/C/EAC

Dr. P. N. Cundall,
Mining Surveys Ltd.,
Holroyd Road,
Reading,
Berks.

4th April, 1984

Dear Pete,

Permit me to introduce you to the facility of facsimile transmission.

In facsimile a photocell is caused to perform a raster scan over the subject copy. The variations of print density on the document cause the photocell to generate an analogous electrical video signal. This signal is used to modulate a carrier, which is transmitted to a remote destination over a radio or cable communications link.

At the remote terminal, demodulation reconstructs the video signal, which is used to modulate the density of print produced by a printing device. This device is scanning in a raster scan synchronised with that at the transmitting terminal. As a result, a facsimile copy of the subject document is produced.

Probably you have uses for this facility in your organisation.

Yours sincerely,

Phil.

P. J. CROSS
Group Leader - Facsimile Research

Industry standard test sheet

Display messages

MESSAGE	INTERPRETATION	ACTION
DOC. IN MEM.	Incoming documents have been stored in the memory because there was a problem during reception which prevented immediate printing.	Check nature of problem (no paper or ink) and remedy.
REC. IN MEM.	Reception continues with storage in memory because of paper error or ink out.	Check nature of problem and remedy.
OUT OF INK	No ink in cartridge.	Change cartridge.
ADD PAPER!	No paper in the sheet feeder.	Insert paper in sheet feeder.
CHECK PRINT HEAD	Print head is not present or some print nozzles are clogged so print quality is affected.	Check presence of print head. Replace print head.
REMOVE DOCUMENT PRESS STOP	Document scanning interrupted.	Remove document by pressing STOP and re-insert correctly.
PRINT. COVER OPEN	The printer cover is open or not correctly closed.	Close cover.
KEYBOARD OPEN	Console is open or not correctly closed.	Remove document and close console.
PAPER ERROR PRESS STOP	Paper jam.	Check and insert paper correctly – press STOP .
SYSTEM ERROR nn	A fatal system error has been detected.	Switch off fax and switch it on again. If problem persists, call Customer Service.
CHECK PRINT OUT 1=EXIT 0=REPEAT	Print head has just been replaced.	Check print quality and select 1 or 0.

MESSAGE	INTERPRETATION	ACTION
CLEANING: ON	Automatic test procedure in operation.	No action.
NEW PRINT HEAD? 1=YES 2=NO	Print head has been refitted.	Select 1 or 2 as appropriate. If you enter 1 and the print head is not new, the fax machine will not generate a message when the ink runs out.
TX COMPLETED	Transmission has ended successfully.	No action.
TX ERROR PRESS STOP	Transmission was unsuccessful.	Press STOP and repeat transmission.
RX COMPLETED!	Document has been received correctly.	No action.
RX ERROR PRESS STOP	The document reception was unsuccessful.	Press STOP .
TX INTERRUPTED PRESS STOP	Procedure interrupted by user. Press STOP .	
RX INTERRUPTED PRESS STOP	Procedure interrupted by user. Press STOP .	
AUTOREDIAL nnn	Fax is redialling to get a connection.	No action.
DOCUMENT READY	Document correctly inserted.	No action.
LIFT HANDSET	Displayed on receiving a phone call.	Lift handset and answer.
OFF HOOK	Following a telephone call.	Replace the telephone handset.
NOT PROGRAMMED	Displayed when you choose a one-touch key or Quickdial code that has not been programmed.	Program the one-touch key or Quickdial code.

MESSAGE	INTERPRETATION	ACTION
LINE ON HOLD PRESS HOLD	Line has been put on hold during telephone connection.	Press hold to restore normal operating mode.
TX POLL ERR PRESS STOP	Polling transmission unsuccessful.	Press STOP and reset polling TX.
RX POLL ERR PRESS STOP	Polling reception unsuccessful.	Press STOP and reset polling RX.

Transmission report messages

02: IMPOSSIBLE CONNECTION	Line tone is not detected or the machine is receiving incorrect tones.	Make sure the fax is connected correctly to the telephone line and that the telephone handset has not been lifted. Contact the receiving party and retry.
03: RECEIVER DOES NOT ANSWER	Remote fax machine not answering.	Contact destination party.
04: ERRORS WHILE TRANSMITTING RESEND FROM PAGE nn	Error has been detected during transmission (nn = the page number on which the error was detected).	Repeat transmission from the page indicated on the transmission report.
05: RESEND PAGES nn,.....nn	Certain pages have been received unclearly on the remote fax machine (nn=page number on which error is detected).	Re-transmit the pages shown on the transmission report.
06: LINE ENGAGED	Engaged tone detected before or after dialling.	Redial.
07: DOCUMENT TOO LONG	Time taken for transmission exceeds permitted limits.	Divide the document.

MESSAGE	INTERPRETATION	ACTION
08: CHECK THE DOCUMENT	Scanning error during document transmission.	Remove document from automatic document feeder and re-insert it before attempting another transmission.
09: TX INTERRUPTED WITH STOP	User has pressed STOP to interrupt the procedure.	No action.
13: ERROR WHILE POLLING	Remote fax machine is without a document for polling transmission.	Check with the other party.
16: POWER FAILURE ON PAGE (NN)	Transmission unsuccessful due to power failure.	Re-transmit the document starting from page indicated by (nn).

Journal report messages

MESSAGE IN "RESULT" FIELD	INTERPRETATION	ACTION
02	Fax machine does not detect line tone or receives incorrect signals.	Check that the machine is connected correctly to the line and that the handset is on the hook. Contact other party and retry connection.
03	No answer from remote fax.	Contact other party.
04	Anomaly was detected during transmission (nn = page number on which error occurred).	Repeat transmission starting from page shown in PAGE field.
05	Unclear reception of certain pages by remote fax.	Repeat transmission.
07	Document is too long, transmission time exceeds permitted limit.	Divide document.

MESSAGE IN "RESULT" FIELD	INTERPRETATION	ACTION
08	Optical scanner could not read document.	Remove document from the automatic document feeder and re-insert it before repeating transmission.
09	User has pressed STOP during procedure.	No action.
10	Fax has detected anomaly during reception.	Contact other party and ask them to repeat transmission.
11	Printer anomaly during reception. The rest of the document is stored in the memory but memory capacity was exhausted before the end of the procedure.	Remedy problem and wait until the memorised document has been printed.
13	Remote fax has no document for polling transmission.	Contact other party.
16	Power failure during transmission or reception.	In the case of transmission, repeat from the page indicated (nn).

MESSAGE IN "RESULT" FIELD	INTERPRETATION	ACTION
OK	Successful transmission.	No action.
(OK)	Errors detected during reception.	Check quality of received document printing.
OCC	Engaged tone detected before or after dialling.	Repeat transmission.
MESSAGE IN "TYPE" FIELD	INTERPRETATION	
TX	Transaction is a transmission.	
TX ECM	Transaction is a transmission with ECM error correction.	
RX	Transaction is a document reception.	
RX ECM	Transaction is a document reception with ECM error correction.	
TX POLL	Transaction is a polling transmission.	
TX POLL ECM	Transaction is a polling transmission with ECM error correction.	
RX POLL	Transaction is a polling reception.	
RX POLL ECM	Transaction is a polling reception with ECM error correction.	
RD READ ECM	Procedure is a reception from a telediagnostic centre with ECM error correction. During the reception the telediagnostic centre has read your fax machine's set-up data.	
RD SET ECM	Procedure is a reception from remote diagnostic centre with ECM error correction. During reception the telediagnostic centre transmitted set-up data to your fax machine.	

Technical Specifications and General Characteristics

MODEL	Desktop transceiving unit	
DISPLAY	LCD (16 + 16 characters)	
COMPATIBILITY	G3 CCITT	
RESOLUTION	Horizontal scanning: Vertical scanning:Standard 3.85 lines/mm 9600/7200/4800/2400 bps	8 pixels/mm Fine 7.7 lines/mm
MODEM SPEED	MH, MR, Proprietary	
DATA COMPRESSION	CCD	
SCANNING METHOD	10 sheets of A4, A5, Letter, Legal	
AUTOMATIC DOCUMENT FEEDER	Plain paper with bubble ink jet technology	
PRINTING SYSTEM	208mm	
MAX. PRINTING WIDTH	A4 (210mm x 297 mm), Letter, Legal	
PRINTING PAPER	Plain paper sheet feeder	
PAPER FEED	(70 sheets of 70-90gsm paper)	
REN	3	

Dimensions

WIDTH	324 mm	DEPTH	325 mm (421mm max.)
WEIGHT	6.3 kg	HEIGHT	140.5 mm (230mm max.)

Electrical characteristics

POWER SUPPLY	230 VAC, 50Hz
POWER CONSUMPTION	
STAND-BY	14W
TRANSMISSION	25W
RECEPTION	20W
COPYING	25W

Environmental conditions

TEMPERATURE	5°C (operating) +35°C -15°C to +45°C (transport) 0°C to +45°C (storage)
RELATIVE HUMIDITY (without condensation)	15% - 85% (operating, storage and non-operating) 5% - 95% (transport)

Technical information

Choosing a position

Your DF450 should be kept clear of dust, moisture, high temperature and vibration and should not be exposed to direct sunlight. Don't install it close to radiators or air-conditioning outlets or in excessively warm, humid or dusty places.

Warning

The apparatus is only designed to be operated in a normal office or domestic environment where the relative humidity does not exceed 60%. It should not be used in bathrooms or near water.

Connecting to the UK network

DF450 is tested and approved for connection to the UK network, provided that it is used in accordance with the guidelines in this booklet.

Approval number

BABT Certificate Number/Approval Number for the DF450
503727 APPROVED for connection to telecommunication systems specified in the instructions for use subject to conditions set out in them. CE compliant to 89/336/CEE (EMC Directive)

Approval for use

This apparatus has been approved for use with the following facilities:

Storage of telephone numbers for retrieval by a predetermined code. (If problems occur, verify stored number).

Automatic call initiation.

Use on a PBX which returns secondary proceed indication.

Operation in the presence or absence of initial or secondary proceed indication.

Automatic dialling facilities.

Automatic storage of last number dialled.

Automatic repeat attempt facilities.

Auto clear from the originating end.

Series connection facility.

Call progress monitor.

You may connect it:

- to direct exchange lines;
- to extensions with new plug and socket arrangements provided with these direct exchange lines;
- to compatible switchboards.

You may NOT connect it:

- to shared service (party) lines.

The connection to the telecommunication system must be unplugged before the earth is disconnected. The connection to the telecommunication system must not be hardwired.

This apparatus may be used on telecommunications systems employing loop disconnect or MF signalling.

Any other usage will invalidate the approval of the apparatus if, as a result, it then ceases to conform to the standards against which approval was granted.

How many phones you can have

Your exchange line provides only a small current to make your telephone ring. Although you may have any number of sockets it is important to limit the number of telephones and other items of apparatus connected to the line by these sockets. This ensures that each telephone will receive enough current to ring.

Every telephone or item of apparatus has a Ringer Equivalence Number (REN)

In most cases a standard line should provide enough current for two or more telephones or items of apparatus, if the RENs add up to no more than 4.

DF450 has a REN of 3. Any telephone provided by BT may be assumed to have a REN of 1 unless otherwise stated on the base. Even where the number of telephones has been limited, there is no guarantee that the different types of telephone on the same line will ring.

Voltage drop

The voltage drop introduced by the apparatus between the PSTN and the associated telephone/answering machine is 0.4 Volts at 40mA dc.

The introduction of this voltage drop may occasionally cause difficulties in making calls from the associated telephone or problems in telephone conversations being experienced by both parties to the call.

While operation may be possible initially, changes to or modernisation of the network taking place in the normal course of events may result in the apparatus being connected to a network service with which it is not designed to be compatible. Failure of the apparatus to work under these circumstances may not be the responsibility of the network operator.

In the unlikely event of any such problems occurring, the user should contact the supplier or maintainer of the apparatus.

Difficulty may be experienced when making calls from other apparatus. Such difficulties may include:

- difficulties in making a call;
- problems in telephone conversation being experienced by both parties to the call.

Note - The definition of a RBS (Relevant Branch System) from PSTN lines is given in BS6789 section 6.1 (1986) clause 2.4

Connecting to switchboards

Your DF450 is approved only for use with a compatible switchboard including those which do not provide secondary proceed indication.

If you do have a compatible switchboard, it cannot be guaranteed that the DF450 will operate correctly under all possible conditions of connection.

If you have any difficulties, contact BT on
Freefone 0800 800 152.

Safety warning

Interconnection circuits should be such that the equipment continues to comply with the requirements of 4.2 of EN 41003 for TNV circuits and 2.3 of EN 60950 for SELV circuits, after making connections between circuits.

Interconnection directly, or by way of other apparatus, of ports marked Safety Warning. See instructions for use. Ports marked or not so marked may produce hazardous conditions on the network. Advice should be obtained from a competent engineer before such a connection is made.

Index

Access codes	32	Document jam	37
Additional features	25	Document memory	38
Answer machine/fax mode	18	Error correction mode (ECM)	32
Answer machine use	18	Error light	38
Attachments	6	External button	32
Automatic document feeder	8	Fax monitor	25
Automatic print-outs	26	Fine resolution	25
Automatic RX	18	Half tones resolution	25
Automatic sheet feeder	7	Header position	13
Beeper	30	Help	36
BT socket	5	Hold button	18
Capital letters	22	Ink cartridge fitting	34
Cleaning	35, 36	Installation parameters	27
Clear button	21	Journal report messages	43
Connecting - your DF450	5	Last number redial	15
telephone	11	Line cord - connecting	5
answering machine	11	Line monitor	25
Contrast button	25	Loading a document	14
Copying	16	Loading paper	9
Customer help line	3	Mains power	6
Date and time setting	11	Maintenance	34
Delayed TX	16	Manual dialling	15
Delaying a fax	16	Manual reception	17
Diagnostics	33	Memory	13
Dialling	- fax numbers	- back-up	13
	- telephone numbers	- document	38
		- names and numbers	21
Direct exchange connection	31	Monitor - speaker volume	25
Display messages	40	Name and fax number setting	12

Normal dialling	15	Reports	26
One-touch dialling	15	Resolution	25
One-touch number storing	21	RX mode	17
Optical scanner	35	Scanner - cleaning	35
Paper	9	Sending a fax	15
Paper jam	37	Sent document tray	7
Paper size adjustment	28	Setting time and date	11
Pause button	31	Settings - print-out	27
PBX - connecting to	31	Speed	33
Phone calls	18	Silence lapse time	30
Phone/fax RX	17	STD resolution	25
Polling	20	Storing names and numbers	
Power failure - memory back-up	13, 38	- one touch	21
- report	26	- Quickdial	23
Print cartridge installation	9	- your name & number	12
Print cartridge replacements	38	Surplus setting	29
Print cartridge life	38	Switchboard - connecting to	31
Print head fitting	34	Symbols	13, 22, 24
Print outs	26	Technical specifications	46
Private switchboard connection	31	TAD/fax RX	18
Pulse dialling	31	Telephone line cord	5
Quickdial number storing	23	Time and date	11
Quickdialling	15	Tone dialling	31
Received document tray	6, 7, 8	Transmission report messages	42
Receiving a fax	16	Transmitting - see sending	15
Receiving with an		Technical information	46
answering machine	18	Using your DF450	14
Reception modes	17	Volume setting - Beeper	30
Redial	15	Volume setting - Speaker	25
Remote diagnostics	33	Warranty	38
REN	47	TAD/Fax RX	18
Replacing - ink cartridge	34	Telephone line cord	5
- paper	9	Time and date	11
- print head	34	Tone dialling	31

Transmission report messages	42
Transmitting - see sending	15
Technical information	47
Technical specification	46
Using your DF450	14
Volume setting - beeper	30
Volume setting - speaker	25
Warranty	38



*Offices in Europe, North America,
Japan and Asia Pacific.*

The telecommunications services described in this publication are subject to availability and may be modified from time to time. Services and equipment are provided subject to British Telecommunications plc's respective standard conditions of contract. Nothing in this publication forms any part of any contract.

© British Telecommunications plc 1996.
Registered Office: 81 Newgate Street, London EC1A 7AJ.
Registered in England No. 1800000.
Printed in Thailand. Issue No.2 (10/96).
Designed by The Art & Design Partnership Limited.



CE compliant to 89/336/EEC
(EMC Directive) & 73/23/EEC
(Low Voltage Directive)

APPROVED for connection to
telecommunication systems specified
in the instructions for use subject to
the conditions set out in them